

Wisconsin's 2015 open water sportfishing effort and harvest from Lake Michigan and Green Bay

**Laura Schmidt
Cheryl Masterson**

***Wisconsin Department of Natural Resources
Bureau of Fisheries Management
Southern Lake Michigan Fisheries Work Unit
600 E. Greenfield Ave.
Milwaukee, Wisconsin 53204***

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Abstract – The sport fishery in Wisconsin waters of Lake Michigan and Green Bay was documented from March 1, 2015 through November 20, 2015. Fishing effort, harvest and harvest-rates were determined from 1) a stratified-random creel survey of launched-boat, pier, shore and stream anglers; 2) a randomized mail survey of moored-boat anglers; and 3) mandatory charter-boat reporting. For a detailed description of methods see Eggold 1995.

Anglers spent an estimated 2,728,083 hours fishing on Lake Michigan and Green Bay during 2015 with boat-angler effort at 2,147,731 hours, or 79% of the total hours. Fishing effort during 2015 was on track with the ten-year average and slightly higher than effort in 2014.

The estimated harvest of 479,742 fish was dominated by Chinook salmon (113,973) followed by yellow perch (99,322) and walleye (98,302). The boat fishery, comprised of launched-boat, moored-boat, and charter-boat anglers, dominated the fishery by harvesting an estimated 424,604 fish, which was 89% of the total harvest and was led by Chinook salmon (106,545), walleye (84,647), and yellow perch (84,439). Pier, shore, and stream anglers harvested primarily yellow perch and walleye, followed by Chinook salmon and rainbow trout. Overall harvest-rates were highest for Chinook salmon at 0.0418 fish/hour, followed by yellow perch at 0.0364 fish/hour and walleye at 0.0360 fish/hour.

The 2015 Chinook harvest of 113,973 was the lowest on record since 1994, when 99,755 Chinooks were harvested, and 56% below the ten-year average. An unusually cold winter and spring hampered Lake Michigan fishing in 2015, with Chinook fishing seeing the best results later in the season. Chinook stocking numbers were reduced lake-wide by half in 2013 in order to better balance the number of predators with available prey and to account for a significant amount of natural reproduction of Chinooks. A weak 2013 year-class for Chinook could also be contributing to a lower harvest.

Coho harvest in 2015 was 41,010, which was 39% below the ten-year average coho harvest. The 2015 rainbow trout harvest of 59,106 was within 1% of the ten-year average. Brown trout harvest in 2015 was 20,174, which was within 1% of the ten-year average. A total of 35,715 lake trout were harvested in 2015, which was 70% above the ten-year lake trout average and the highest lake trout harvest since 2002 (39,865 fish). The 2015 harvest-rate for all salmonids combined was 0.0990 fish/hour.

The 2015 harvest of yellow perch in Green Bay was 93,964, which was 65% below the ten-year average. The Lake Michigan yellow perch harvest in 2015 was 5,358; the lowest on record and 82% below the ten-year average. Perch harvest in Lake Michigan has been on a downward trend since 1993. The sport catch is now mainly comprised of the 2010 year-class followed by the 2011 and 2012 year-classes. Age was assigned using the anal spines of 85 Lake Michigan angler-caught yellow perch during 2015. The 2010 year-class represented 39% of the total. The 2011 and 2012 year-classes combined contributed 39% to the fishery.

In 2015, the standard weight of a 30-inch Chinook was 9.19 pounds, which was 3.7% below the ten-year average. The standard weight for a 22-inch coho was 3.84 pounds, which was 2.8 percent below the ten-year average. The standard weight for a 25-inch rainbow was 3.90 pounds which was 6% below the ten-year average. The standard weight of a 25-inch lake trout was 5.61 pounds which was within 1% of the ten-year average. The standard weight of a 21-inch brown trout was 3.86 pounds, which was 3% below the ten-year average.

REFERENCES

Eggold, B.T. 1995. Wisconsin's 1995 open water sportfishing effort and catch from Lake Michigan and Green Bay. Wisconsin Department of Natural Resources, Plymouth, Wisconsin. 19 pages.

Table 1. Estimated angler effort (hours) by location in Wisconsin waters of Lake Michigan and Green Bay during March through December of 2006 through 2015. Standard deviations are in *Italics*.

Location	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Average
Kenosha Co.	160,145 <i>7,114</i>	169,253 <i>7,378</i>	123,931 <i>5,748</i>	141,626 <i>8,197</i>	146,762 <i>8,287</i>	116,032 <i>5,801</i>	135,980 <i>2,851</i>	128,865 <i>5,255</i>	130,028 <i>5,420</i>	101,115 <i>5,005</i>	135,374 <i>6,307</i>
Racine Co.	148,919 <i>9,293</i>	154,228 <i>8,678</i>	120,828 <i>5,968</i>	175,220 <i>9,991</i>	161,959 <i>9,422</i>	151,135 <i>7,225</i>	131,342 <i>10,091</i>	122,651 <i>8,484</i>	122,670 <i>7,070</i>	102,899 <i>8,988</i>	139,185 <i>8,618</i>
Milwaukee Co.	289,698 <i>11,476</i>	355,727 <i>13,893</i>	244,716 <i>9,890</i>	302,368 <i>13,669</i>	340,503 <i>14,174</i>	276,843 <i>15,204</i>	324,011 <i>14,704</i>	290,866 <i>11,427</i>	255,180 <i>10,870</i>	266,000 <i>10,079</i>	294,591 <i>12,681</i>
Ozaukee Co.	190,431 <i>10,156</i>	221,062 <i>10,577</i>	178,438 <i>8,175</i>	209,223 <i>11,968</i>	215,809 <i>10,210</i>	256,961 <i>19,364</i>	208,450 <i>12,203</i>	203,739 <i>9,651</i>	190,049 <i>9,525</i>	172,696 <i>8,333</i>	204,686 <i>11,430</i>
Sheboygan Co.	236,400 <i>12,525</i>	269,932 <i>15,383</i>	214,928 <i>10,367</i>	222,741 <i>11,542</i>	238,132 <i>12,909</i>	199,350 <i>9,537</i>	225,384 <i>11,503</i>	206,006 <i>9,124</i>	213,716 <i>10,111</i>	216,025 <i>11,712</i>	224,261 <i>11,605</i>
Manitowoc Co.	208,400 <i>12,619</i>	233,155 <i>13,626</i>	162,851 <i>9,415</i>	198,420 <i>10,255</i>	206,362 <i>9,591</i>	179,525 <i>8,336</i>	212,739 <i>10,796</i>	178,186 <i>8,370</i>	188,585 <i>9,482</i>	169,683 <i>8,250</i>	193,791 <i>10,221</i>
Kewaunee Co.	401,030 <i>17,521</i>	480,792 <i>21,041</i>	409,096 <i>16,508</i>	405,917 <i>17,954</i>	382,614 <i>22,200</i>	323,860 <i>12,740</i>	311,407 <i>7,780</i>	373,777 <i>14,969</i>	355,094 <i>15,390</i>	366,474 <i>15,312</i>	381,006 <i>16,600</i>
E. Door Co.	260,107 <i>12,469</i>	246,522 <i>11,672</i>	167,331 <i>13,149</i>	184,720 <i>9,653</i>	213,147 <i>14,552</i>	151,136 <i>7,001</i>	204,549 <i>23,159</i>	197,007 <i>12,272</i>	173,099 <i>9,008</i>	217,815 <i>3,414</i>	201,543 <i>12,642</i>
Green Bay	880,607 <i>33,282</i>	930,708 <i>33,729</i>	874,362 <i>35,185</i>	1,017,143 <i>38,890</i>	936,050 <i>42,151</i>	886,143 <i>40,835</i>	771,724 <i>26,553</i>	1,078,064 <i>46,108</i>	991,943 <i>46,490</i>	1,115,376 <i>36,343</i>	948,212 <i>38,410</i>
Total Effort	2,775,737 <i>47,519</i>	3,061,379 <i>50,730</i>	2,496,481 <i>45,967</i>	2,857,378 <i>51,588</i>	2,841,338 <i>56,591</i>	2,540,985 <i>52,261</i>	2,525,586 <i>45,010</i>	2,779,161 <i>54,564</i>	2,620,364 <i>54,403</i>	2,728,083 <i>45,267</i>	2,722,649 <i>50,548</i>

Table 2. Estimated harvest and total harvest-rate (number per hour, all anglers combined) of salmonids in Wisconsin waters of Lake Michigan and Green Bay during March through December of 2006 through 2015. Standard deviations are in *Italics*.

Species	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Average
Coho Salmon	56,136 <i>2,693</i>	94,677 <i>3,776</i>	25,453 <i>1,222</i>	42,690 <i>1,989</i>	42,445 <i>2,039</i>	157,367 <i>11,432</i>	73,395 <i>3,114</i>	89,061 <i>3,927</i>	52,297 <i>6,572</i>	41,010 <i>4,329</i>	67,453 <i>4,989</i>
Chinook Salmon	398,905 <i>8,658</i>	431,143 <i>10,425</i>	256,796 <i>6,658</i>	214,621 <i>5,645</i>	315,294 <i>8,164</i>	169,752 <i>4,083</i>	390,385 <i>9,058</i>	145,301 <i>4,363</i>	130,698 <i>3,587</i>	113,973 <i>3,479</i>	256,687 <i>6,850</i>
Rainbow Trout	48,420 <i>1,700</i>	62,249 <i>2,212</i>	41,552 <i>1,635</i>	46,529 <i>2,063</i>	49,121 <i>2,023</i>	75,442 <i>2,588</i>	75,981 <i>2,592</i>	58,311 <i>1,969</i>	73,105 <i>2,286</i>	59,106 <i>1,707</i>	58,982 <i>2,103</i>
Brown Trout	17,769 <i>1,102</i>	37,947 <i>2,580</i>	23,763 <i>2,146</i>	15,792 <i>958</i>	13,029 <i>1,114</i>	9,936 <i>846</i>	21,337 <i>1,768</i>	17,094 <i>1,303</i>	23,324 <i>1,785</i>	20,174 <i>1,899</i>	20,017 <i>1,642</i>
Brook Trout	17 <i>8</i>	62 <i>24</i>	13 <i>14</i>	27 <i>0</i>	0 <i>0</i>	26 <i>0</i>	18 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	16 <i>9</i>
Lake Trout	10,638 <i>533</i>	19,281 <i>893</i>	12,763 <i>554</i>	14,946 <i>803</i>	17,483 <i>775</i>	17,788 <i>1,236</i>	29,094 <i>1,261</i>	27,240 <i>1,005</i>	25,425 <i>1,098</i>	35,715 <i>1,460</i>	21,037 <i>1,005</i>
Total Harvest	531,885 <i>9,306</i>	645,359 <i>11,631</i>	360,340 <i>7,308</i>	334,605 <i>6,453</i>	437,372 <i>8,760</i>	430,311 <i>12,502</i>	590,210 <i>10,158</i>	337,007 <i>6,406</i>	304,849 <i>8,104</i>	269,978 <i>6,285</i>	424,192 <i>8,941</i>
Harvest-Rate	0.1916	0.2108	0.1443	0.1171	0.1539	0.1693	0.2337	0.1213	0.1163	0.0990	0.1557

Table 3. Estimated harvest and total harvest-rate (number per hour, all anglers combined) of yellow perch in Wisconsin waters of Lake Michigan and Green Bay during March through December of 2006 through 2015. Standard deviations (estimates) are in *Italics*.

Location	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Average
Green Bay	757,698 <i>55,220</i>	501,646 <i>36,032</i>	196,852 <i>15,560</i>	204,209 <i>19,361</i>	225,995 <i>21,042</i>	254,942 <i>24,973</i>	148,980 <i>13,685</i>	215,422 <i>18,974</i>	118,980 <i>12,283</i>	93,964 <i>9,780</i>	271,869 <i>26,124</i>
Harvest-Rate	0.8604	0.5390	0.2251	0.2008	0.2414	0.2877	0.1930	0.1998	0.1199	0.0842	0.2952
Lake Michigan	67,660 <i>9,285</i>	66,240 <i>5,327</i>	20,648 <i>2,562</i>	50,744 <i>5,122</i>	51,265 <i>4,787</i>	16,982 <i>2,296</i>	9,115 <i>1,071</i>	8,830 <i>1,221</i>	8,174 <i>1,108</i>	5,358 <i>1,021</i>	30,502 <i>13,434</i>
Harvest-Rate	0.0357	0.0311	0.0127	0.0276	0.0269	0.0103	0.0052	0.0052	0.0050	0.0033	0.0163
Total Harvest	825,358 <i>55,995</i>	567,886 <i>36,424</i>	217,500 <i>15,769</i>	254,953 <i>20,027</i>	277,260 <i>21,579</i>	271,924 <i>25,078</i>	158,095 <i>13,727</i>	224,252 <i>19,013</i>	127,154 <i>12,333</i>	99,322 <i>9,834</i>	302,370 <i>26,467</i>
Harvest-Rate	0.2973	0.1855	0.0871	0.0892	0.0976	0.1070	0.0626	0.0807	0.0485	0.0364	0.1111

Note: Table 3 reflects that some Door County sites represent Green Bay for yellow perch harvest statistics.

Table 4. Estimated harvest-rate (harvest per hour), harvest and effort for all survey areas and **ALL FISHERY TYPES** for Wisconsin waters of Lake Michigan and Green Bay during 2015. Standard deviations are in Italics.

Species	Harvest per hour	March/April	May	June	July	August	Sept/Oct	Nov/Dec	Season
Coho Salmon	0.015033	10,903 <i>4,042</i>	6,687 <i>779</i>	10,663 <i>888</i>	6,652 <i>865</i>	3,526 <i>380</i>	2,579 <i>331</i>	0 <i>0</i>	41,010 <i>4,329</i>
Chinook Salmon	0.041778	149 <i>80</i>	1,335 <i>227</i>	19,846 <i>1,145</i>	56,796 <i>2,955</i>	26,160 <i>1,166</i>	9,687 <i>804</i>	0 <i>0</i>	113,973 <i>3,479</i>
Rainbow Trout	0.021666	3,657 <i>531</i>	2,690 <i>409</i>	14,552 <i>741</i>	17,679 <i>946</i>	17,077 <i>941</i>	3,451 <i>368</i>	0 <i>0</i>	59,106 <i>1,707</i>
Brown Trout	0.007395	7,454 <i>1,704</i>	1,495 <i>239</i>	919 <i>267</i>	4,485 <i>580</i>	3,511 <i>384</i>	2,310 <i>299</i>	0 <i>0</i>	20,174 <i>1,899</i>
Brook Trout	0	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
Lake Trout	0.013092	490 <i>192</i>	1,672 <i>243</i>	9,820 <i>589</i>	11,116 <i>965</i>	8,801 <i>476</i>	3,816 <i>730</i>	0 <i>0</i>	35,715 <i>1,460</i>
Splake	0	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
Northern Pike	0.000968	918 <i>130</i>	255 <i>122</i>	53 <i>31</i>	586 <i>426</i>	161 <i>73</i>	668 <i>205</i>	0 <i>0</i>	2,641 <i>511</i>
White Perch	0.000028	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	77 <i>72</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	77 <i>72</i>
Smallmouth Bass	0.003454	0 <i>0</i>	2,257 <i>810</i>	979 <i>307</i>	2,734 <i>788</i>	2,776 <i>605</i>	676 <i>216</i>	0 <i>0</i>	9,422 <i>1,336</i>
Yellow Perch	0.036407	2,940 <i>857</i>	231 <i>126</i>	2,740 <i>653</i>	9,351 <i>2,239</i>	37,629 <i>5,940</i>	46,431 <i>7,432</i>	0 <i>0</i>	99,322 <i>9,834</i>
Walleye	0.036033	17,714 <i>4,116</i>	28,918 <i>4,044</i>	9,982 <i>1,486</i>	24,498 <i>4,278</i>	9,777 <i>1,642</i>	7,413 <i>3,140</i>	0 <i>0</i>	98,302 <i>8,146</i>
Total Harvest	0.175853	44,225 <i>6,104</i>	45,540 <i>4,241</i>	69,554 <i>2,408</i>	133,974 <i>5,980</i>	109,418 <i>6,412</i>	77,031 <i>8,167</i>	0 <i>0</i>	479,742 <i>14,304</i>
Angler Hours		321,397 <i>17,846</i>	311,126 <i>27,689</i>	409,850 <i>14,627</i>	701,766 <i>25,255</i>	538,456 <i>16,821</i>	445,488 <i>14,453</i>	0 <i>0</i>	2,728,083 <i>49,283</i>

Table 5. Estimated harvest-rate (harvest per hour), harvest and effort for the **BOAT FISHERY** with all surveys combined for Wisconsin waters of Lake Michigan and Green Bay during 2015. Standard deviations are in *Italics*.

Species	Harvest per hour	March/April	May	June	July	August	Sept/Oct	Nov/Dec	Season
Coho Salmon	0.017773	10,298 <i>4,038</i>	6,418 <i>772</i>	10,642 <i>888</i>	6,164 <i>839</i>	3,301 <i>375</i>	1,348 <i>144</i>	0 <i>0</i>	38,171 <i>4,308</i>
Chinook Salmon	0.049608	133 <i>79</i>	1,245 <i>217</i>	19,779 <i>1,144</i>	56,095 <i>2,950</i>	24,798 <i>1,146</i>	4,495 <i>533</i>	0 <i>0</i>	106,545 <i>3,415</i>
Rainbow Trout	0.024967	242 <i>117</i>	2,124 <i>289</i>	14,456 <i>740</i>	17,015 <i>938</i>	16,702 <i>937</i>	3,083 <i>354</i>	0 <i>0</i>	53,622 <i>1,589</i>
Brown Trout	0.006295	4,642 <i>835</i>	1,034 <i>206</i>	760 <i>263</i>	3,578 <i>548</i>	2,682 <i>354</i>	823 <i>149</i>	0 <i>0</i>	13,519 <i>1,121</i>
Brook Trout	0	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
Lake Trout	0.016449	440 <i>189</i>	1,547 <i>226</i>	9,803 <i>589</i>	11,080 <i>964</i>	8,720 <i>474</i>	3,739 <i>729</i>	0 <i>0</i>	35,329 <i>1,456</i>
Splake	0	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
Northern Pike	0.000555	138 <i>128</i>	169 <i>104</i>	17 <i>17</i>	161 <i>132</i>	145 <i>72</i>	563 <i>198</i>	0 <i>0</i>	1,193 <i>299</i>
White Perch	0	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
Smallmouth Bass	0.003324	0 <i>0</i>	1,979 <i>788</i>	796 <i>289</i>	1,752 <i>647</i>	2,131 <i>484</i>	481 <i>187</i>	0 <i>0</i>	7,139 <i>1,180</i>
Yellow Perch	0.039315	0 <i>0</i>	231 <i>126</i>	2,427 <i>641</i>	8,501 <i>2,219</i>	31,704 <i>5,924</i>	41,576 <i>7,373</i>	0 <i>0</i>	84,439 <i>9,736</i>
Walleye	0.039412	4,870 <i>1,169</i>	28,756 <i>4,043</i>	9,803 <i>1,484</i>	24,266 <i>4,274</i>	9,739 <i>1,642</i>	7,213 <i>3,139</i>	0 <i>0</i>	84,647 <i>7,122</i>
Total Harvest	0.197699	20,763 <i>4,294</i>	43,503 <i>4,221</i>	68,483 <i>2,400</i>	128,612 <i>5,928</i>	99,922 <i>6,381</i>	63,321 <i>8,079</i>	0 <i>0</i>	424,604 <i>13,532</i>
Angler Hours		178,436 <i>15,820</i>	271,251 <i>27,428</i>	361,343 <i>14,264</i>	632,162 <i>24,843</i>	457,795 <i>16,167</i>	246,744 <i>12,375</i>	0 <i>0</i>	2,147,731 <i>47,304</i>

Table 6. Estimated harvest-rate (harvest per hour), harvest and effort for the **PIER FISHERY** with all survey areas combined for Wisconsin waters of Lake Michigan and Green Bay during 2015. Standard deviations are in *Italics*.

Species	Harvest per hour	March/April	May	June	July	August	Sept/Oct	Season
Coho Salmon	0.008916	271 <i>127</i>	96 <i>48</i>	21 <i>16</i>	488 <i>212</i>	225 <i>63</i>	590 <i>256</i>	1,691 <i>364</i>
Chinook Salmon	0.014821	0 <i>0</i>	22 <i>14</i>	67 <i>32</i>	588 <i>153</i>	1,234 <i>205</i>	900 <i>245</i>	2,811 <i>356</i>
Rainbow Trout	0.00647	0 <i>0</i>	36 <i>23</i>	72 <i>30</i>	581 <i>115</i>	366 <i>93</i>	172 <i>82</i>	1,227 <i>173</i>
Brown Trout	0.011167	464 <i>123</i>	185 <i>60</i>	88 <i>33</i>	824 <i>189</i>	408 <i>93</i>	149 <i>65</i>	2,118 <i>262</i>
Brook Trout	0	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
Lake Trout	0.001645	32 <i>22</i>	125 <i>88</i>	17 <i>12</i>	36 <i>20</i>	81 <i>39</i>	21 <i>13</i>	312 <i>103</i>
Splake	0	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
Northern Pike	0.00029	0 <i>0</i>	55 <i>55</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	55 <i>55</i>
White Perch	0	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
Smallmouth Bass	0.007487	0 <i>0</i>	202 <i>180</i>	0 <i>0</i>	635 <i>398</i>	539 <i>354</i>	44 <i>31</i>	1,420 <i>563</i>
Yellow Perch	0.006079	0 <i>0</i>	0 <i>0</i>	156 <i>111</i>	456 <i>200</i>	254 <i>125</i>	287 <i>216</i>	1,153 <i>339</i>
Walleye	0.000169	19 <i>19</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	13 <i>11</i>	32 <i>22</i>
Total Harvest	0.057044	786 <i>179</i>	721 <i>223</i>	421 <i>125</i>	3,608 <i>562</i>	3,107 <i>454</i>	2,176 <i>429</i>	10,819 <i>897</i>
Angler Hours		12,386 <i>1,449</i>	11,218 <i>1,063</i>	25,787 <i>2,506</i>	44,348 <i>3,670</i>	52,185 <i>3,876</i>	43,735 <i>3,971</i>	189,659 <i>7,333</i>

Table 7. Estimated harvest-rate (harvest per hour), harvest and effort for the **SHORE FISHERY** with all survey areas combined for Wisconsin waters of Lake Michigan and Green Bay during 2015. Standard deviations are in Italics.

Species	Harvest per hour	March/April	May	June	July	August	Sept/Oct	Season
Coho Salmon	0.007707	334 <i>130</i>	173 <i>91</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	417 <i>120</i>	924 <i>198</i>
Chinook Salmon	0.008508	0 <i>0</i>	68 <i>67</i>	0 <i>0</i>	113 <i>84</i>	128 <i>55</i>	711 <i>147</i>	1,020 <i>190</i>
Rainbow Trout	0.005947	403 <i>167</i>	58 <i>30</i>	24 <i>18</i>	83 <i>47</i>	9 <i>9</i>	136 <i>55</i>	713 <i>186</i>
Brown Trout	0.018351	583 <i>142</i>	255 <i>103</i>	71 <i>33</i>	83 <i>29</i>	421 <i>116</i>	787 <i>200</i>	2,200 <i>293</i>
Brook Trout	0	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
Lake Trout	0.000617	18 <i>18</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	56 <i>33</i>	74 <i>37</i>
Splake	0	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
Northern Pike	0.010268	746 <i>0</i>	31 <i>31</i>	0 <i>0</i>	425 <i>405</i>	16 <i>16</i>	13 <i>12</i>	1,231 <i>407</i>
White Perch	0	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
Smallmouth Bass	0.004287	0 <i>0</i>	39 <i>39</i>	162 <i>103</i>	192 <i>132</i>	106 <i>76</i>	15 <i>15</i>	514 <i>189</i>
Yellow Perch	0.031205	462 <i>406</i>	0 <i>0</i>	87 <i>39</i>	244 <i>188</i>	820 <i>281</i>	2,128 <i>655</i>	3,741 <i>842</i>
Walleye	0	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
Total Harvest	0.086892	2,546 <i>480</i>	624 <i>164</i>	344 <i>116</i>	1,140 <i>476</i>	1,500 <i>319</i>	4,263 <i>714</i>	10,417 <i>1,052</i>
Angler Hours		13,259 <i>1,513</i>	9,061 <i>868</i>	9,760 <i>976</i>	14,065 <i>1,954</i>	17,799 <i>1,593</i>	55,940 <i>4,331</i>	119,884 <i>5,396</i>

Table 8. Estimated harvest-rate (harvest per hour), harvest and effort for the **STREAM FISHERY** with all survey areas combined for Wisconsin waters of Lake Michigan and Green Bay during 2015. Standard deviations are in Italics.

Species	Harvest per hour	March/April	May	June	July	August	Sept/Oct	Nov/Dec	Season
Coho Salmon	0.0008272	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	224 <i>95</i>	0 <i>0</i>	224 <i>95</i>
Chinook Salmon	0.0132824	16 <i>14</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	3,581 <i>530</i>	0 <i>0</i>	3,597 <i>530</i>
Rainbow Trout	0.0130867	3,012 <i>490</i>	472 <i>286</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	60 <i>26</i>	0 <i>0</i>	3,544 <i>568</i>
Brown Trout	0.0086297	1,765 <i>1,473</i>	21 <i>21</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	551 <i>151</i>	0 <i>0</i>	2,337 <i>1,481</i>
Brook Trout	0	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
Lake Trout	0	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
Splake	0	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
Northern Pike	0.0005982	34 <i>24</i>	0 <i>0</i>	36 <i>26</i>	0 <i>0</i>	0 <i>0</i>	92 <i>52</i>	0 <i>0</i>	162 <i>63</i>
White Perch	0.0002843	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	77 <i>72</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	77 <i>72</i>
Smallmouth Bass	0.0012887	0 <i>0</i>	37 <i>35</i>	21 <i>21</i>	155 <i>162</i>	0 <i>0</i>	136 <i>103</i>	0 <i>0</i>	349 <i>196</i>
Yellow Perch	0.0368858	2,478 <i>755</i>	0 <i>0</i>	70 <i>47</i>	150 <i>111</i>	4,851 <i>315</i>	2,440 <i>632</i>	0 <i>0</i>	9,989 <i>1,041</i>
Walleye	0.0503048	12,825 <i>3,946</i>	162 <i>98</i>	179 <i>80</i>	232 <i>182</i>	38 <i>38</i>	187 <i>84</i>	0 <i>0</i>	13,623 <i>3,954</i>
Total Harvest	0.1251879	20,130 <i>4,307</i>	692 <i>305</i>	306 <i>99</i>	614 <i>277</i>	4,889 <i>317</i>	7,271 <i>856</i>	0 <i>0</i>	33,902 <i>4,424</i>
Angler Hours		117,316 <i>7,988</i>	19,596 <i>3,536</i>	12,960 <i>1,804</i>	11,191 <i>1,828</i>	10,677 <i>2,007</i>	99,069 <i>4,609</i>	0 <i>0</i>	270,809 <i>10,401</i>

Table 9. Average weight, average length and standard weight of salmonids from Wisconsin's Lake Michigan creel survey during 2006 through 2015, all areas and fishery types combined. std = standard deviation.

Year	Average weight (lbs.)	± 1 std	Average length (in.)	± 1 std	Standard weight (lbs.)
Coho salmon					
2006	3.7539	1.3560	21.6351	2.1038	3.8924
2007	4.5479	1.4540	22.9910	2.2278	3.7990
2008	4.4560	2.0490	22.4677	3.1329	3.9681
2009	4.9807	1.9220	23.2278	2.9728	4.2262
2010	4.5751	2.2101	22.8805	3.7821	3.9833
2011	4.2329	1.8161	22.1766	2.6627	3.9868
2012	3.4466	1.4930	20.6385	2.8135	3.8802
2013	5.3848	2.6743	23.6931	3.4848	4.0654
2014	3.9803	1.9275	21.2898	3.0179	3.9316
2015	4.0000	1.8299	21.4375	3.3676	3.8470
Chinook salmon					
2006	10.2487	4.7178	29.4031	4.9557	9.6769
2007	10.2004	4.4631	29.6011	4.8774	9.0942
2008	9.6660	4.7395	28.6085	4.9816	9.4565
2009	11.0706	5.3288	29.6812	5.5420	9.7943
2010	8.7700	4.3646	28.0374	5.5873	8.5914
2011	10.1487	5.8206	28.0507	6.0373	10.2631
2012	10.2651	4.0305	30.0844	4.6550	8.8881
2013	10.4966	7.0121	28.1742	6.7792	10.2408
2014	11.3915	5.0015	30.0012	4.8944	10.2321
2015	10.4108	4.5165	29.7477	5.4302	9.1940
Rainbow trout					
2006	6.7922	2.5199	25.7703	3.8482	4.3479
2007	6.5670	2.7310	25.9133	4.0252	3.8683
2008	5.8041	2.5126	24.6186	3.6684	3.8944
2009	6.4368	2.6692	25.1826	3.9525	4.5698
2010	6.2216	2.5984	25.6125	3.9888	4.3301
2011	6.1851	2.6215	24.8381	3.8826	4.2453
2012	6.3634	2.4765	26.1214	3.7593	4.2812
2013	6.4838	2.6676	25.5596	3.7736	4.0376
2014	6.7767	2.8838	25.9776	3.8120	4.1739
2015	5.7588	2.4129	25.2419	4.4224	3.9037
Brown trout					
2006	6.3170	3.5998	22.6715	4.7363	3.9029
2007	4.8583	2.9599	20.9185	3.7287	3.7323
2008	5.7157	3.1288	22.2123	3.7398	3.7529
2009	6.7666	3.9047	22.8051	4.3925	4.4162
2010	7.7499	4.3883	24.2774	5.0338	3.8949
2011	4.9160	4.0068	19.7757	5.5077	4.1725
2012	4.7658	2.7347	20.7304	3.7789	4.0676
2013	5.8537	3.0350	22.0303	3.6793	3.9190
2014	5.8459	3.3608	21.2050	4.6428	4.2392
2015	5.1532	3.1955	20.9572	4.3664	3.8568
Lake trout					
2006	5.3567	2.0533	24.2254	3.1010	5.5616
2007	5.8834	2.8582	24.7787	3.4032	5.4606
2008	6.0624	3.2897	24.5111	3.3282	5.9121
2009	6.0985	2.5753	25.1504	3.2636	5.5297
2010	5.9275	3.2344	24.2994	3.9970	5.9239
2011	6.1933	3.1017	25.0834	3.6291	5.6477
2012	6.7815	3.6110	26.1740	4.1798	5.3274
2013	5.8791	2.7630	25.0904	3.1524	5.3559
2014	6.3332	3.4466	24.7813	4.0396	5.8595
2015	7.4776	3.7718	26.8174	4.1893	5.6124

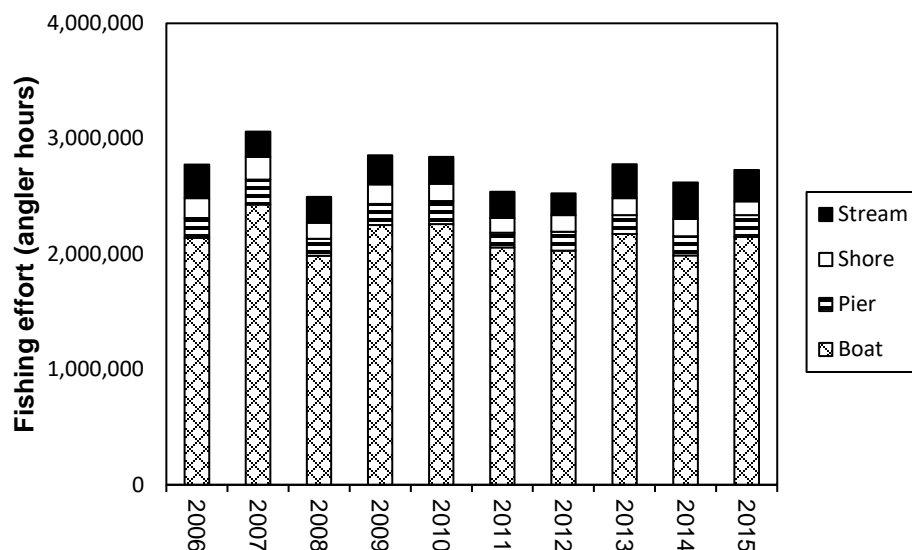


Figure 1. Fishing effort (angler hours) in Wisconsin waters of Lake Michigan and Green Bay from 2006 through 2015.

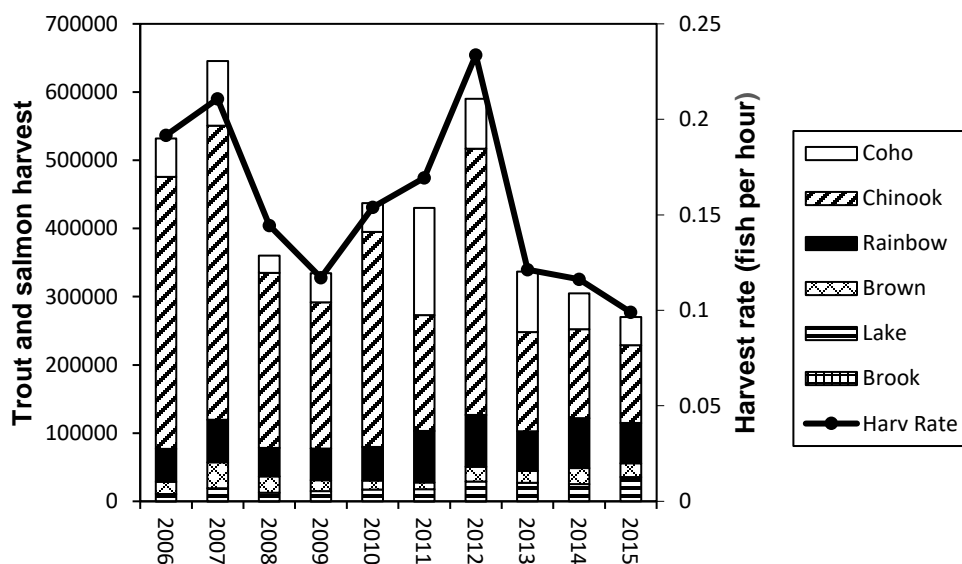


Figure 2. Trout and salmon harvest and harvest-rate from Wisconsin waters of Lake Michigan and Green Bay from 2006 through 2015.

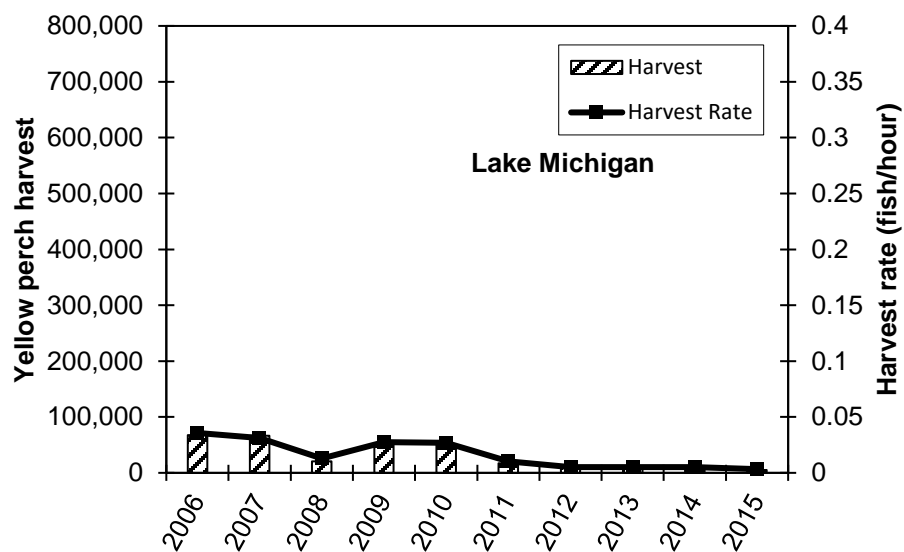
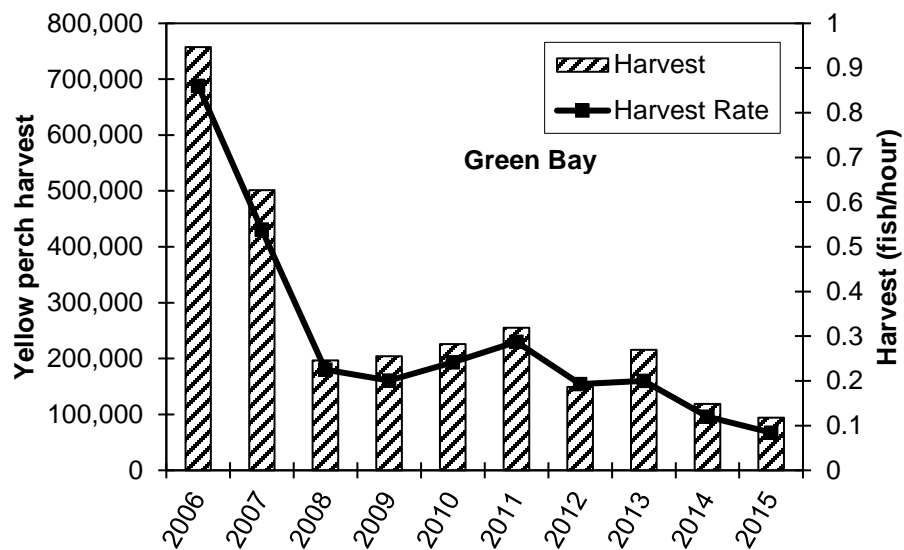


Figure 3. Yellow perch angler-harvest and harvest-rate from Wisconsin waters of Green Bay and Lake Michigan from 2006 through 2015. Note: Figure 3 reflects that some Door County sites represent Green Bay for yellow perch harvest statistics.